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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/714,292	11/17/2000	Takatoshi Yamanaka	1080.1084 (JDH)	4924

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EXAMINER

EDWARDS, PATRICK L

ART UNIT	PAPER NUMBER
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2621

DATE MAILED: 04/21/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 09/714,292	Applicant(s) YAMANAKA ET AL.	
	Examiner Patrick L Edwards	Art Unit 2621	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 18 January 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-16 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-16 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 01-18-2005 has been entered.

Claim Rejections - 35 USC § 112

2. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

3. Claims 2-16 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claims 2, 15, and 16, call for "a type of photography device". This element, while mentioned in the disclosure, is not clearly defined. What is a "type of photography device"? Where is it defined in the specification? Is the "type of photography device" the type of imager used to capture the radiographic image? Or, is it the type of medical image that is captured? An answer to these questions is required in order to determine the metes and bounds of the claims.

Claim 2 is further rejected under 112(2) because the language "an image processing condition storing section to store an image processing condition, when the medical image is subjected to image processing" is not consistent with the remaining language of the claim. More specifically, the above language appears to suggest that the storing of the image processing condition occurs simultaneously with the processing of the image. However, the next paragraph states that image processing is performed in accordance with the stored image processing condition. These two claimed statements are inconsistent with one another. It appears this problem could be cured by adopting the language used in claims 15 and 16—which do not contain inconsistent claim language. For claim interpretation purposes, the phrase "when the medical image is subjected to the image processing" will simply be ignored, since it appears that this language is simply extraneous.

Claims 3-14 are rejected as depending from a rejected claim.

Claim Rejections - 35 USC § 102

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

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(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

5. Claims 1-3 and 5-16 are rejected under 35 U.S.C. 102(e) as being anticipated by Ogura et al. (U.S. Patent No. 6,502,984 B2).

With regard to claim 1, which is representative of claims 2 and 14, Ogura discloses a data obtaining section to obtain the radiation image (see Figure 29: The reference describes that elements 70-72 are used to obtain a radiation image of an object S).

Ogura further discloses a data obtaining section to obtain information regarding the photography device (see Figure 29 in conjunction with col. 16 lines 42-45 and col. 17 lines 9-14: The reference describes determining whether the image is a an irradiation field or a photography portion. This is information regarding the photography device), and a part of the target from where the radiation image was obtained (i.e. the size of the irradiated region as can be see—for example—in Figure 33, which shows the size and shape of the irradiated image region B1).

Ogura further discloses an image processing condition storing section to store as an image processing condition, the information regarding the photography device and the part of the target (see Figure 29 element 75).

Ogura further discloses an image processing section to read from said image processing condition storing section the image processing condition, and to subject the radiation image obtained by said data obtaining section to the image processing in accordance with the image processing condition read by the image processing section (see Figure 29 element 73 in conjunction with col. 15 lines 49-53).

With regard to claim 3, Ogura et al. discloses that the image processing section subjects the medical image obtained by said data obtaining section to at least a gradation conversion processing and a frequency emphasis processing (see column 15, lines 49-54: The reference describes that the image process means 73 subjects the image to processing including gradation correction and frequency emphasis.), and said image processing condition storing section stores a frequency emphasis function indicating a degree of frequency emphasis in which a gradation conversion function and an average density around respective points of the medical image are used as variables in accordance with the type of the photography device and the photography condition (see Fig. 29: As can be see from the figure, the image process 73 means obtains information (i.e. the photography device type and the photography condition) from the image process condition determining means 75.).

With regard to claim 5, Ogura et al. discloses an image processing condition operating section to add, to change, and to delete said image processing condition in response to an operation (see column 16, lines 42-67: The reference describes that the image process condition determining means can comprise an irradiation field determining means or posture determining means at any given time. Therefore, a device is used to change, add, or delete one of these conditions.).

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With regard to claim 6, Ogura et al. discloses an image display section to display the medical image subjected to the image processing by said image processing section (see column 18, line 45: The reference describes that the processed image can be displayed on a television monitor (i.e. image display section)).

With regard to claim 7, which is representative of claim 8, Ogura et al. discloses an interested area designating section to designate an area of interest on the medical image displayed in said image display section in response to an operation, wherein said image display section lowers a luminance of an area, excluding the area of interest designated by said interested area designating section, to display the medical image (see Fig. 32: From this figure it can be seen that a designated area of the medical image B1 has been displayed and that the luminance of an area excluding the area of interest B1 has been lowered as can be seen by area B2.).

With regard to claim 9, which is representative of claim 10, Ogura et al. discloses a part recognizing section to recognize positions of a plurality of parts appearing in the medical image, wherein said image processing section subjects the area of interest, designated by said interested area designating section, to the image processing in accordance with a respective one of the plurality of parts appearing in the area of interest, and being among the plurality of parts having positions thereof which are recognized by said part recognizing section (see column 17, lines 9-27: The reference describes that photograph portion determining means (i.e. parts recognizing means) that determines a part based on a comparison with template parts (i.e. a plurality of parts)).

With regard to claim 11, which is representative of claims 12 and 13, Ogura et al. discloses a scanning processing designating section to designate, in response to an operation, a scanning processing to set an area of interest on the medical image displayed in said image display section and to move the area of interest in a predetermined direction, wherein said image display section displays, in accordance with the scanning processing by said scanning processing designating section, the medical image in which the area of interest successively moves, and a luminance of an area, excluding the area of interest, is lowered (see column 16, lines 42-54: The reference describes a movable aperture stop (i.e. a scanning processing designating section) for determining an irradiated region B1 (i.e. designating a scanning processing of setting the area of interest on the medical image displayed in said image display section). This aperture stop can be moved to any region of interest that is desired.).

With regard to claim 15, which merely calls for the method performed by the apparatus of claim 2, since Ogura et al. disclose the apparatus, the method performed by the apparatus is also disclosed.

With regard to claim 16, which merely calls for an image processing program storage medium in which a program for operating a computer system as an image processing apparatus as described in claim 2, Ogura et al. discloses such an image processing program storage medium since all of the image processing in Ogura et al. is performed by computer.

Claim Rejections - 35 USC § 103

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

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(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. Claim 4 is rejected under 35 U.S.C. 103(a) as being unpatentable over the combination of Ogura et al. (U.S. Patent No. 6,502,984 B2) and Ogura (U.S. Patent No. 6,314,198 B1). The arguments as to the relevance of Ogura et al. in the rejection of claims 1-3 above are incorporated herein.

Claim 4 calls for the image processing section to subject the medical image obtained by the data obtaining section to a luminance correction processing using a dynamic range compression function in which the average density around the respective points of the medical image is used as the variable. Although Ogura et al. discloses a variety of image processing techniques such as gradation correction and frequency emphasis, the reference does not disclose the use of luminance correction processing. However, Ogura, in the same field of endeavor of image processing and the same problem solving area of radiation images discloses the use of luminance correction processing (see column 36, lines 20-30: The reference describes a luminance correction processing using a dynamic range compression processing function which uses the average density as a factor.).

It would have been obvious to a person of ordinary skill in the art at the time the invention was made to modify Ogura et al. by adding the luminance correction processing as taught in Ogura because this type of processing allows the "optimum image processing for the radiographic, digital image without troubling the operator".

Conclusion

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Patrick L Edwards whose telephone number is (571) 272-7390. The examiner can normally be reached on 8:30am - 5:00pm M-F.

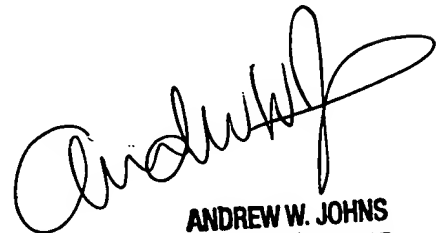
If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Bhavesh Mehta can be reached on (571) 272-7453. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Patrick L. Edwards

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ANDREW W. JOHNS
PRIMARY EXAMINER